

Agreement State/ HFS 157 Workshop

Department of Health and Family Services
Radiation Protection Section

Understanding HFS 157

Understanding HFS 157

OBJECTIVES:

1. What is in effect now and who does it apply to?
2. What subchapters apply to my licensed activity when WI becomes an agreement state?
3. What are the differences from NRC requirements?

Radioactive Materials

Subchapters

Effective August 1, 2002

I-General

III-Radiation Protection

X-Notices/Reports to Workers

XI-Inspection

XII-Enforcement

XIII-Transportation

XV-Registration

Who is regulated now?

NARM Registrants:

- Portable Moisture Density Gauges w/ Radium
- XRF devices with Co-57
- Other gauges or check sources w/ Radium
- Mobile PET
- Miscellaneous NARM sources

Who will be regulated?

When Wisconsin becomes an Agreement State
mid 2003.....

*Nuclear Regulatory Commission (NRC)
Byproduct, Source and Special Nuclear
Material Licensees and Applicants*

and

NARM Specific Licensees

Additional Subchapters Effective When Become Agreement State (2003)

II-Licensing

IV-Industrial Radiography

- Radioactive Materials users

V-Well Logging

- Radioactive Materials users

VI-Medical Use of Radioactive Material

VII-Irradiators

What subchapters will apply?

(When WI becomes an Agreement State)

The following subchapters will apply to all:

I-General

II-Licensing

III-Radiation Protection

X-Notices

XI-Inspections

XII-Enforcement

What subchapters apply to certain Types of Use?

IV-Industrial Radiography

V-Wireline Service (Well Logging)

VI-Medical Use of Radioactive Material

VII-Irradiators (Pool)

XIII-Transportation

Subchapter I-General

Applies to:

- ALL

Appendices:

- E (ALIs & DACs)
and S (see #2)

1. Definitions: (437) that apply to both x-ray and radioactive materials users
2. Requirements for Portable Moisture Density gauges and XRF devices

HFS 157.05 (3) & (4)

(3) RADIATION SURVEY INSTRUMENTATION. No person may operate a portable device containing radioactive material designed to measure moisture content or density of materials unless calibrated and operable radiation survey instrumentation that meets the requirements of s. HFS 157.52(4) is available for use at each site where the portable devices are used.

(4) TRAINING. (a) No person may use a portable device containing radioactive material used to measure moisture content or density of materials or determine lead content of paint unless the person has completed 8 hours of manufacturer's training or equivalent training that meets the requirements of Appendix S.

HFS 157.06(4) & (5)

- SI units are used “first” in HFS 157
- The standard units of Curie and mrem follow in parentheses

Appendix S

Course Outline for Portable Gauge and XRF Device Radiation Safety Training Program

- For portable gauge and XRF users

Subchapter II-Licensing

Applies to:

- ALL

Appendices:

- A, B, C, I, P, Q

1. Licenses: General vs specific, limited vs broad, special requirements
2. Fees: Specific and GL registration
3. Financial Assurance & Decommissioning

HFS 157.10

(3) FEE SCHEDULE. The following is the schedule of application, annual, amendment and reciprocity fees for specific radioactive material licenses.

<u>CATEGORY</u>	<u>LICENSE TYPE</u>	<u>APPLICATION & ANNUAL FEE</u>
1.	Special Nuclear Material	
A.	License for possession and use of SNM in sealed sources contained in devices used in measuring systems.	\$1,000
B.	License for use of SNM to be used as calibration and reference sources	\$300

HFS 157.10 continued

<u>CATEGORY</u>	<u>LICENSE TYPE</u>	<u>APPLICATION & ANNUAL FEE</u>
11.	AMENDMENTS	
A.	Request to amend specific license - no license review <i>Examples include spelling corrections and adding or removing previously authorized users.</i>	\$0
B.	Request to amend specific license - license review required <i>Examples include new isotopes and procedural changes</i>	\$200
C.	Request to amend specific license - license review and site visit required <i>Examples include a facility move and new processes</i>	\$400

Appendices A & B

Appendix A

Exempt Concentrations

- If the isotope is listed, it is the maximum concentration that may be possessed without the need for a license.

Appendix B

Exempt Quantity

- If the isotope is listed, it is the maximum amount that may be possessed without the need for a license.

Appendix C-Limits for Broad Licenses

Applies to Academic and Medical Broad Licenses only

Type B & C Broad Scope Licenses:

- Lists the maximum quantity that can be listed on the license

Appendix I-Quantities for Use with Decommissioning under HFS 157.15

Only includes isotopes with $T_{1/2} > 120$ days

For determining financial assurance amounts

Appendix P & Q

See *157.13(1)(g)* For users of large quantities of radioactive material (sealed & unsealed)

Appendix P

*Quantities of Radioactive Materials Requiring
Consideration of the Need for a Contingency
Plan For Responding to a Release*

Appendix Q

Contents of an Emergency Plan

Subchapter III-Standards for Protection from Radiation

Applies to:

- ALL

Appendices:

- D, E, F, G, H

1. Radiation Protection Program
2. Dose Limits: Workers & Public
3. Personnel Monitoring Requirements
4. Leak tests, surveys, posting, waste disposal
5. Criterion for license termination

HFS 157.21

HFS 157.21 Radiation protection programs. *(1) A licensee or registrant shall develop, document and implement a radiation protection program sufficient to ensure compliance with the provisions of this subchapter.*

Note: See s. HFS 157.31 (2) for record keeping requirements relating to programs in this subchapter.

(2) A licensee or registrant shall use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable.

(3) A licensee or registrant shall, at intervals not to exceed 12 months, review the radiation protection program content and implementation.

HFS 157.24

HFS 157.24 Testing for leakage or contamination of sealed sources.

- (1) GENERAL REQUIREMENTS. A licensee or registrant in possession of any sealed source shall ensure that all of the following requirements are met:*
- (a) Each sealed source, other than hydrogen-3, with a half-life of 30 days or more and in any form other than gas or seeds of iridium-192 encased in nylon ribbon, shall be tested for leakage or contamination as follows:*
- 1. Prior to initial use.*
 - 2. Unless otherwise authorized by the department, the NRC or another agreement state, at intervals not to exceed **6 months**, except that each source designed to emit alpha particles shall be tested at intervals not to exceed 3 months.*

HFS 157.25(2)(a)6

(2) CONDITIONS REQUIRING INDIVIDUAL MONITORING OF EXTERNAL AND INTERNAL OCCUPATIONAL DOSE. A licensee or registrant shall monitor exposures from sources of radiation at levels sufficient to demonstrate compliance with the occupational dose limits of this subchapter.As a minimum, a licensee or registrant shall do all the following:

(a) Monitor occupational exposure to radiation sources under their control and supply and require the use of individual monitoring devices by all of the following:.....

6. Individuals operating portable moisture or density measuring devices.

HFS 157.28(1)

HFS 157.28. Storage and control of licensed or registered sources of radiation. *(1) SECURITY AND CONTROL OF LICENSED OR REGISTERED RADIOACTIVE MATERIALS.*

(a) A licensee or registrant shall secure licensed or registered radioactive material in an unrestricted area from unauthorized removal or access.

10 CFR

20.1801 Security of stored material. *The licensee shall secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas.*

HFS 157.28(1)

HFS 157.28. Storage and control of licensed or registered sources of radation. (1) SECURITY AND CONTROL OF LICENSED OR REGISTERED RADIOACTIVE MATERIALS.

(a) A Licensee.....

(b) A licensee or registrant shall maintain constant surveillance, or use devices or administrative procedures, to prevent unauthorized use of licensed or registered radioactive material that is in an unrestricted area and that is not in storage.

10 CFR

20.1802 Control of material not in storage. *The licensee shall control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage.*

HFS 157.32(7) &(8)

(7) REPORTS OF LEAKING OR CONTAMINATED SEALED SOURCES.

A licensee or registrant shall file a written report within 5 working days with the department if the test for leakage or contamination required under s. HFS 157.24 indicates a sealed source is leaking or contaminated. The report shall describe the equipment involved, the test results and the corrective action taken.

(8) VACATING PREMISES. A specific licensee or registrant shall, at least 30 days before, vacating or relinquishing possession or control of premises which may have been contaminated with radioactive material as a result of the licensee's or registrant's activities, notify the department in writing of the licensee's or registrant's intent to vacate. When deemed necessary by the department, the licensee or registrant shall decontaminate the premises in such a manner as the department may specify.

HFS 157.33

- Radiological Criteria for License Termination
 - Unrestricted Use: 0.25mSv (25 mrem) TEDE to “average member of critical group”
 - Alternate Criteria: unlikely to exceed one mSv/yr (100 mrem/year)
 - No Restricted Use criteria

Appendix E & F

Appendix E

Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs)

- Applies to users who handle unsealed radioactive materials

Appendix F

Quantities of Licensed or Registered Material Requiring Labeling

Appendix G & H

Appendix G

*Requirements for Transfer of Low Level
Radioactive Waste (LLRW) for Disposal at Land
Disposal Facilities and Manifests*

Appendix H

Classification and Characteristics of LLRW

- Applies to users who must dispose of RM at commercial LLRW facilities

Subchapter IV-Industrial Radiography

Applies to:

- Industrial Radiography

Appendices:

- None

1. Certification required (7 states and ASNT)
2. Two man rule for field operations (Radiographer and Asst. Radiographer OK)

Subchapter V-Wireline Services

Applies to:

- Well Logging Operations

Appendices:

- J, K

1. Addresses wireline and sub-surface tracer studies
2. Notification of incidents, abandonment, and lost sources
3. 157.52(4) has survey meter requirements

Subchapter VI-Medical Use of Radioactive Material

Applies to:

- Medical Use

Appendices:

- None

1. Policy Statement and License Conditions for 10 CFR 35, subpart J (expires 10/24/04)
2. Written Procedures still required for New and Renewal Applications
3. Break out session recommended for details

Subchapter VII-Irradiators

Applies to:

- Pool type irradiators

1. None in the state

Appendices:

- E

Subchapter X-Notices, Instructions and Reports to Workers

Applies to:

- ALL

Appendices:

- None

1. Notice to Workers available from web-site (can use this Notice for “location of documents”)
2. Annual written exposure reports to all “badged” workers
3. Annual training for workers who exceed 100 mrem per year

Subchapter XI-Inspection by Department

Applies to:

- ALL

Appendices:

- None

1. The Department may inspect at “any reasonable time”
2. Requests by workers for inspections

Subchapter XII-Enforcement

Applies to:

- ALL

Appendices:

- R

1. Considerations: Public Health & Safety, Willfulness, Repetition
2. Forfeitures based on Severity Level

Appendix R

- Examples of Severity Levels



Subchapter XIII- Transportation

Applies to:

- Persons who ship or transport Radioactive Materials

1. Incorporates 49 CFR 170-189
2. Shipping Papers, Emergency Information, and Haz-mat Training

Appendices:

- O

Appendix O-Determination of A_1 and A_2

Used to determine the shipping requirements



Accessing HFS 157

Where can I access HFS 157?

- www.legis.state.wi.us/rsb/code/hfs/hfs110.html

Scroll to HFS 157 (pdf format)

How can I obtain a copy?

- CD mailed: Registrants & NRC licensees
- Attend this workshop & receive a copy!
- Call & request (if nothing else works)

Questions?

Where do I find the requirements for....

For specific types of use questions, the break-out sessions are recommended